

# SLOVENSKI STANDARD

## SIST EN ISO 14509-1:2008

01-december-2008

BUXca Yý U

SIST EN ISO 14509:2001

SIST EN ISO 14509:2001/A1:2004

---

**Mala plovila - Merjenje zvoka v zraku, ki ga oddajajo motorizirana rekreacijska plovila - 1. del: Postopki merjenja pri vožnji mimo (ISO 14509-1:2008)**

Small craft - Airborne sound emitted by powered recreational craft - Part 1: Pass-by measurement procedures (ISO 14509-1:2008)

**iTeh STANDARD PREVIEW**

Kleine Wasserfahrzeuge - Von motorgetriebenen Sportbooten abgestrahlter Luftschall - Teil 1: Vorbeifahrtmessungen (ISO 14509-1:2008)

<http://standards.iTeh.ai/catalog/standards/sist/8781-775a-20a5-4ca3-b499-1a60461749f8/sist-en-iso-14509-1-2008>

Petits navires - Bruit aérien émis par les bateaux de plaisance motorisés - Partie 1: Méthodes de mesure pour l'essai de passage (ISO 14509-1:2008)

**Ta slovenski standard je istoveten z: EN ISO 14509-1:2008**

---

**ICS:**

17.140.30	Emisija hrupa transportnih sredstev	Noise emitted by means of transport
47.080	[ ] ã	Small craft

**SIST EN ISO 14509-1:2008**

**en**

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

SIST EN ISO 14509-1:2008

<https://standards.iteh.ai/catalog/standards/sist/878b775a-20a5-4ca3-b409-1a60461749f8/sist-en-iso-14509-1-2008>

EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN ISO 14509-1**

October 2008

ICS 17.140.30; 47.080

Supersedes EN ISO 14509:2000

English Version

**Small craft - Airborne sound emitted by powered recreational craft - Part 1: Pass-by measurement procedures (ISO 14509-1:2008)**

Petits navires - Bruit aérien émis par les bateaux de plaisance motorisés - Partie 1: Méthodes de mesure pour l'essai de passage (ISO 14509-1:2008)

Kleine Wasserfahrzeuge - Von motorgetriebenen Sportbooten abgestrahlter Luftschall - Teil 1: Vorbeifahrtmessungen (ISO 14509-1:2008)

This European Standard was approved by CEN on 24 August 2008.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

<https://standards.iteh.ai/catalog/standards/sist/6786775a-20a5-4ca3-b409-1a60461749f8/sist-en-iso-14509-1-2008>



EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

**Contents**

Page

<b>Foreword.....</b>	<b>3</b>
<b>Annex ZA (informative) Relationship between this International Standard and the Essential Requirements of EU Directive 94/25/EC as amended by 2003/44/EC .....</b>	<b>4</b>

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

SIST EN ISO 14509-1:2008  
<https://standards.iteh.ai/catalog/standards/sist/878b775a-20a5-4ca3-b409-1a60461749f8/sist-en-iso-14509-1-2008>

## Foreword

This document (EN ISO 14509-1:2008) has been prepared by Technical Committee ISO/TC 188 "Small craft" in collaboration with Technical Committee CEN/SS T01 "Shipbuilding and maritime structures" the secretariat of which is held by CMC.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by April 2009, and conflicting national standards shall be withdrawn at the latest by April 2009.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 14509:2000.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EC Directive.

For relationship with EC Directive, see informative Annex ZA, which is an integral part of this document.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

[SIST EN ISO 14509-1:2008](https://standards.iteh.ai/catalog/standards/sist/878b775a-20a5-4ca3-b409-1a6046174958/sist-en-iso-14509-1-2008)

[https://standards.iteh.ai/catalog/standards/sist/878b775a-20a5-4ca3-b409-](https://standards.iteh.ai/catalog/standards/sist/878b775a-20a5-4ca3-b409-1a6046174958/sist-en-iso-14509-1-2008)

[1a6046174958/sist-en-iso-14509-1-2008](https://standards.iteh.ai/catalog/standards/sist/878b775a-20a5-4ca3-b409-1a6046174958/sist-en-iso-14509-1-2008)

### Endorsement notice

The text of ISO 14509-1:2008 has been approved by CEN as a EN ISO 14509-1:2008 without any modification.

## Annex ZA (informative)

### Relationship between this International Standard and the Essential Requirements of EU Directive 94/25/EC as amended by 2003/44/EC

This International Standard has been prepared under a mandate given to CEN by the European Commission to provide one means of conforming to Essential Requirements of the New Approach Directive 94/25/EC as amended by Directive 2003/44/EC.

Once this standard is cited in the Official Journal of the European Communities under that Directive and has been implemented as a national standard in at least one Member State, compliance with the normative clauses of this standard given in Table ZA.1 confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding Essential Requirements of that Directive and associated EFTA regulations.

**Table ZA.1 — Correspondence between this International Standard and Directive 94/25/EC as amended by 2003/44/EC**

Clause(s)/sub-clause(s) of this International Standard	Essential requirements (ERs) of EU Directive 94/25/EC as amended by 2003/44/EC	Qualifying remarks/Notes
All clauses	Annex 1.C, Essential requirements for noise emissions Clause 1.1	ISO 14509-1 defines a boat pass-by test for measurement of noise emissions of recreational craft

**WARNING:** Other requirements and other EU Directives may be applicable to the products falling within the scope of this standard.

# INTERNATIONAL STANDARD

**ISO**  
**14509-1**

First edition  
2008-10-01

---

---

## Small craft — Airborne sound emitted by powered recreational craft —

### Part 1: Pass-by measurement procedures

*Petits navires — Bruit aérien émis par les bateaux de plaisance  
motorisés —*

*Partie 1: Méthodes de mesure pour l'essai de passage*

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

SIST EN ISO 14509-1:2008

<https://standards.iteh.ai/catalog/standards/sist/878b775a-20a5-4ca3-b409-1a60461749f8/sist-en-iso-14509-1-2008>



Reference number  
ISO 14509-1:2008(E)

© ISO 2008

## ISO 14509-1:2008(E)

**PDF disclaimer**

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

## iTeh STANDARD PREVIEW (standards.iteh.ai)

SIST EN ISO 14509-1:2008

<https://standards.iteh.ai/catalog/standards/sist/878b775a-20a5-4ca3-b409-1a60461749f8/sist-en-iso-14509-1-2008>

**COPYRIGHT PROTECTED DOCUMENT**

© ISO 2008

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
Case postale 56 • CH-1211 Geneva 20  
Tel. + 41 22 749 01 11  
Fax + 41 22 749 09 47  
E-mail [copyright@iso.org](mailto:copyright@iso.org)  
Web [www.iso.org](http://www.iso.org)

Published in Switzerland



## Contents

Page

Foreword.....	iv
1 Scope .....	1
2 Normative references .....	1
3 Terms and definitions.....	1
4 Symbols .....	3
5 Measurement quantity.....	3
6 Measurement uncertainty .....	3
7 Measuring equipment.....	5
8 Test site specifications and environmental conditions.....	5
9 Test course, microphone positions and measurement distance .....	6
10 Operating conditions.....	8
11 Test procedure .....	9
12 Test report .....	9
13 Standard craft specifications for outboard motor type tests according to Clause 10 .....	10
14 Standard craft specifications for type tests for stern drives with integral exhaust systems according to Clause 10.....	11
Annex A (normative) Measurement of the sound exposure level .....	12
Annex B (informative) Example of test report form .....	16
Bibliography .....	18
 Figures	
Figure 1 — Position of the microphone and test course.....	7
Figure 2 — Microphone position and heights.....	7
 Tables	
Table 1 — Standard deviation of reproducibility of individual sources of measurement.....	4
Table 2 — Variability for a coverage probability of 90 %.....	4
Table 3 — Correction for background sound pressure level, $L''_{pAS}$ , for monitoring tests .....	6
Table 4 — Standard craft specifications .....	10
Table 5 — Standard craft specifications for petrol engines.....	11
Table 6 — Standard craft specifications for diesel engines.....	11
Table A.1 — Standard deviation of reproducibility of individual sources of measurement.....	12
Table A.2 — Variability for a coverage probability of 90 % .....	13
Table A.3 — Correction for background sound exposure level, $L''_{AE}$ , for monitoring tests .....	14

## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 14509-1 was prepared by Technical Committee ISO/TC 188, *Small craft*.

This first edition of ISO 14509-1 cancels and replaces ISO 14509:2000, which has been technically revised. It also incorporates the Amendment ISO 14509:2000/Amd.1:2004.

ISO 14509 consists of the following parts, under the general title *Small craft — Airborne sound emitted by powered recreational craft*:

- *Part 1: Pass-by measurement procedures*
- *Part 2: Sound assessment using reference craft*
- *Part 3: Sound assessment using calculation and measurement procedures*

# Small craft — Airborne sound emitted by powered recreational craft —

## Part 1: Pass-by measurement procedures

### 1 Scope

This part of ISO 14509 specifies the conditions for obtaining reproducible and comparable measurement results of the maximum sound pressure level of airborne sound generated during the passage of powered recreational craft of up to 24 m length of hull, including inboards, stern drives, personal watercraft (PWC) and outboard motors. It also specifies standard craft based type tests for stern drives with integral exhaust systems and for outboard motors. It also specifies the procedure to be followed if, in addition to the maximum sound pressure level, the determination of the sound exposure level is desired.

NOTE For craft other than those specified above, ISO 2922 is applicable for sound emission measurements.

The accuracy grade of the acoustical test procedures specified in this part of ISO 14509 is engineering grade (grade 2).

### 2 Normative references

[SIST EN ISO 14509-1:2008](https://standards.iteh.ai/catalog/standards/sist/878b775a-20a5-4ca3-b409-1a60461749f8/sist-en-iso-14509-1-2008)

[https://standards.iteh.ai/catalog/standards/sist/878b775a-20a5-4ca3-b409-](https://standards.iteh.ai/catalog/standards/sist/878b775a-20a5-4ca3-b409-1a60461749f8/sist-en-iso-14509-1-2008)

[1a60461749f8/sist-en-iso-14509-1-2008](https://standards.iteh.ai/catalog/standards/sist/878b775a-20a5-4ca3-b409-1a60461749f8/sist-en-iso-14509-1-2008)

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 8665, *Small craft — Marine propulsion reciprocating internal combustion engines — Power measurements and declarations*

ISO 8666:2002, *Small craft — Principal data*

ISO 10087, *Small craft — Craft identification — Coding system*

IEC 60942, *Electroacoustics — Sound calibrators*

IEC 61672-1, *Electroacoustics — Sound level meters — Part 1: Specifications*

### 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

#### 3.1

#### **type test for recreational craft**

type test

measurement performed to prove that the sound of the craft in motion, or of the outboard motor when using a standard craft, or of the stern drive with integral exhaust system when using a standard craft, complies with sound specifications or prescribed limits

NOTE See also definition of “acceptance test” in ISO 2922.